

09/682,388
Shiffler et al.

Remarks

The application originally contained Claims 1-5. The First Amendment made no changes to the claims. In the Second Amendment, Claims 1-2 were canceled, Claims 3-5 remained as originally submitted, and Claims 6-22 were added. In this third, After Final Amendment, Claims 1-11, 17-18, and 20-22 have been canceled, Claims 12 and 14 have been amended, and Claims 13, 15, 16 and 19 remain as previously added; Claims 12-16 and 19 are thus presented for further consideration.

Prosecution History

The application was originally filed with Claims 1-5. In the First Office Action dated 9/11/02, Claim 1 was rejected under 35 U.S.C. §103(a) as unpatentable over U. S. Patent 5,025,490 issued to Tamura in view of U. S. Patent 5,993,996 issued to Firsich (hereinafter respectively referred to as "*Tamura*" and "*Firsich*"). Claims 2-5 were rejected under 35 U.S.C. §103(a) as unpatentable over *Tamura* and *Firsich*, in view of U. S. Patent 4,442,165 issued to Gebhardt et al. (hereinafter referred to as "*Gebhardt*"). The Examiner also objected to an informal error in the specification. On 12/16/02, the applicants submitted a responsive First Amendment amending the specification and traversing the foregoing rejection of the claims.

In view of the applicants' traverse, on 3/11/03 the Examiner issued a non-final Second Office Action rejecting Claims 4 and 5 under 35 U.S.C. §112, second paragraph, as being indefinite for reciting a limitation having an insufficient antecedent basis; rejecting Claims 1 and 2 under 35 U.S.C. §102(b) as being anticipated by U. S. Patent No. 4,137,477 issued to Krol et al. (hereinafter referred to as "*Krol*"); and rejecting Claims 3-5 under 35 U.S.C. §103(a) as unpatentable over *Krol* in view of *Gebhardt*.

On 7/23/03, the applicants submitted a responsive Second Amendment canceling Claims 1 and 2, adding Claims 6-22, and traversing the foregoing rejection. In response, on 10/21/03, a Final Action rejecting all pending claims, i.e., Claims 3-22, was issued.

09/682,388
Shiffler et al.

More particularly, Claims 4 and 8 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claims 6, 7 and 10 were rejected under 35 U.S.C. §102(b) as being anticipated by *Krol*; Claim 8 was rejected under 35 U.S.C. §103(a) as being obvious in view of *Krol*; and Claims 3-5, 9, and 11-22 were rejected under 35 U.S.C. §103(a) as being obvious over *Krol* in view of U.S. Patent No. 4,034,031 issued to Lersmacher et al. (hereinafter referred to as "*Lersmacher*").

Rejection of Claim 12

Claim 12 has been amended to include the limitations of independent Claim 11 (presently canceled) from which it previously depended, and is now in independent form. Claim 12 recites "directing a flow of hydrocarbon gas over the electron impact surface after heating the electron impact surface to at least 1000°C." Claim 12 was rejected because "*Lersmacher* discloses (column 2 lines 33-50) that the pyrocarbon is deposited by flow of hydrocarbon gas (propane C₃H₈) over the sleeve after heating the surface to 2000°C (2300°K)." Final Office Action (10/21/2003), page 6, lines 5-7.

Lersmacher teaches manufacturing grid electrodes by covering a molded body and a mandril with a thin layer of pyrolytic graphite by a hot gas pyrolysis method, "carried out so that the temperature of the carbon-containing gas is higher, preferably at least 100°K higher, than the temperature of the mandril and the molded body, respectively." Column 2, lines 11-15. Furthermore, within the very passage cited by the Examiner, at column 2, lines 37-39, *Lersmacher* states, "[t]he pyrolytic graphite was deposited from propane (C₃H₈) at 2300°K. at a pressure of approximately 2 millibar." (*sic*)

Lersmacher thus teaches heating hydrocarbon gas to an elevated temperature greater than that of the grid electrodes and flowing this heated gas over the grid electrodes, in contradistinction to the limitation of Claim 12 directed to "heating the electron impact surface to at least 1000°C." The applicants respectfully contend that heating the gas to be flowed over a surface is different

09/682,388
Shiffler et al.

than heating the surface and, therefore, that the aforementioned limitation of Claim 12 is neither taught nor suggested by *Lersmacher*, either alone or in combination with *Krol*.

Claims 13 and 14

Claim 13 depends from Claim 12, and remains as previously added. Claim 14 has been currently amended to depend from Claim 12.

Rejection of Claim 15 and Status of Claim 16

Claim 15 remains as previously added, and depends from Claim 14. The Office Action stated that Claim 15 "recites the same limitation as of claim 4 and hence is rejected for the same reasons." (*sic*) Page 6, lines 14-15. Claim 15 recites that "the carbonizing step includes heating the anode to a temperature of at least 700°C in a non-oxidizing atmosphere." (emphasis added) Claim 4 (presently canceled) does not recite baking in a non-oxidizing atmosphere. Thus, Claim 15 recites a limitation that is not present in Claim 4.

The Examiner's basis for the rejection of Claim 15 is therefore incorrect and renders it improper because the rejection is premised on a reading of Claim 15 that clearly fails to take cognizance of a limitation. In view of the foregoing, the applicants request that the rejection of Claim 15 be withdrawn or, at the very least, that the final action be deemed premature and withdrawn to allow the claim to be reconsidered with the aforementioned limitation being given its proper effect. M.P.E.P. §706.07(d).

Claim 16 remains as previously added, and depends from Claim 15.

Rejection of Claim 19

Claim 19 remains as previously added, and depends from Claim 14. The Office Action stated that Claim 19 "essentially recite[s] the same limitations as of claims 3 and 4 and hence [is] rejected for the same reason." (*sic*) Page 6, lines 20-21. Claim 19 recites that "the heating step includes baking the anode in an oven providing a non-oxidizing atmosphere." (emphasis added) The heating

09/682,388
Shiffler et al.

step is defined in Claim 14 as "heating the anode to a temperature sufficient to decompose the resin and release the volatile components, whereby the char is left as a porous residue."

Claim 3 teaches only the step of "baking the anode/collector to totally carbonize the resin," and that of "baking the anode/collector in a vacuum oven to remove any remaining water." Contrary to the assertion made in the Office Action, neither Claim 3 nor 4 recites the limitation of baking the anode in a non-oxidizing atmosphere to decompose the resin.

As Claim 19 recites a limitation that is not present in Claims 3 and 4, the Examiner's stated basis for rejecting the claim is faulty and renders the rejection improper because it is clearly premised on a reading of Claim 19 that omits a limitation. In view of the foregoing, the applicants request that the rejection of Claim 19 be withdrawn or, at the very least, that the final action be deemed premature and withdrawn to provide for reconsideration of the claim so that the ignored limitation can be properly regarded. M.P.E.P. §706.07(d).

Conclusion

Claims 12-16 and 19 remain pending. In view of the amendments made to the claims, together with the foregoing remarks, the applicants respectfully submit that the claims have been placed in condition for allowance. Accordingly, the applicants earnestly solicit the favorable consideration of their application, and respectfully request that it be passed to issue in its present, amended condition, with Claims 12-16 and 19. Alternatively, the applicants urge that the final action is premature, and request that it be withdrawn to allow further consideration of the claims.

Should the Examiner find any remaining impediment to the prompt allowance of the aforementioned claims that might be resolved or overcome with the aid a telephone conference, she is cordially invited to call the undersigned at the telephone number set out below.

09/682,388
Shiffler et al.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James M. Skorich". The signature is fluid and cursive, with a long horizontal stroke at the end.

James M. Skorich
Attorney for the Applicants
Registration No. 27,594

Telephone No.: (505) 846-1542
Fax No.: (505) 846-0279

December 20, 2003